

Appl. No. 09/581,345
Amdt. dated May 28, 2004
Amendment under 37 CFR 1.116 Expedited Procedure
Examining Group

PATENT

Amendments to the Claims:

This listing of claims will replace all prior versions, and listings, of claims in the application:

Listing of Claims:

1-112. Canceled.

113. (Previously presented) An isolated anti-mesothelin antibody comprising a variable heavy ("V_H") chain and a variable light ("V_L") chain, which V_H and V_L chains have complementarity-determining regions ("CDRs") as set forth in Figure 1 (SEQ ID NO:5).

114. (Previously presented) An antibody of claim 113, wherein said V_H and V_L chains comprise framework regions ("FRs") as set forth in Figure 1 (SEQ ID NO:5).

115. (Previously presented) An antibody of claim 113, wherein said antibody is a single chain Fv ("scFv").

116. (Previously presented) An antibody of claim 115, wherein said scFv has V_H and V_L chains joined by a peptide linker.

117. (Previously presented) An antibody of claim 116, wherein said peptide linker has the sequence of SEQ ID NO:6.

118. (Previously presented) An scFv of claim 115, wherein said scFv has the sequence shown in Figure 1 (SEQ ID NO:5).

119. (Previously presented) An antibody of claim 113, which is a disulfide stabilized Fv ("dsFv").

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120. (Currently amended) A dsFv of claim 119, having a V_L -chain containing a cysteine at position 42, 43, 44, 45, 46, 98, 99, 100, or 101, such positions being determined in accordance with the numbering scheme published by Kabat and Wu, and a V_H -chain containing a cysteine at position 43, 44, 45, 46, 47, 103, 104, 105 or 106, comprising a V_L chain paired with a V_H chain, said chains being connected through a disulfide bond between a pair of cysteines, said pair of cysteines being positioned in the respective chains at positions selected from the group consisting of: V_H 44- V_L 100; V_H 105- V_L 43; V_H 105- V_L 42; V_H 44- V_L 101; V_H 106- V_L 43; V_H 104- V_L 43; V_H 44- V_L 99; V_H 45- V_L 98; V_H 46- V_L 98; V_H 103- V_L 43; V_H 103- V_L 44, such positions being determined in accordance with the numbering scheme of Kabat and Wu.

121. (Previously presented) An antibody of claim 113, wherein said V_H and V_L chains are encoded by SEQ ID NO:1.

122. Canceled.

123. (Previously presented) An antibody of claim 113, further wherein said antibody is labeled with a detectable label.

124. (Previously presented) An scFv of claim 115, further wherein said scFv is labeled with a detectable label.

125. (Previously presented) A dsFv of claim 119, which dsFv is labeled with a detectable label.

126. (Previously presented) An antibody of claim 113, further wherein said antibody is attached or fused to a therapeutic agent.

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127. (Previously presented) An scFv of claim 115, further wherein said scFv is attached or fused to a therapeutic agent.

128. (Previously presented) A dsFv of claim 119, further wherein said dsFv is attached or fused to a therapeutic agent.

129. (Previously presented) An antibody of claim 126, wherein said therapeutic agent is a toxin.

130. (Previously presented) An scFv of claim 127, wherein said therapeutic agent is a toxin.

131. (Previously presented) A dsFv of claim 128, further wherein said therapeutic agent is a toxin.

132. (Previously presented) An antibody of claim 129, wherein said toxin is a *Pseudomonas* exotoxin or cytotoxic fragment or mutant thereof.

133. (Previously presented) An scFv of claim 130, wherein said toxin is a *Pseudomonas* exotoxin or cytotoxic fragment or mutant thereof.

134. (Previously presented) A dsFv of claim 131, wherein said toxin is a *Pseudomonas* exotoxin or cytotoxic fragment or mutant thereof.

135. (Previously presented) An isolated anti-mesothelin antibody comprising a variable heavy ("V_H") chain which V_H chain has complementarity-determining regions as set forth in Figure 1 (SEQ ID NO:5).

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136. (Previously presented) An antibody of claim 135, wherein said V_H chain has the sequence set forth in Figure 1 (SEQ ID NO:5).

137. (Previously presented) An antibody of claim 135, wherein said antibody is attached or fused to a therapeutic agent or detectable label.

138. (Previously presented) An antibody of claim 135, wherein said therapeutic agent is a toxin.

139. (Previously presented) An antibody of claim 138, wherein said toxin is a *Pseudomonas* exotoxin or cytotoxic fragment or mutant thereof.

140. (Previously presented) An isolated anti-mesothelin antibody comprising a variable light ("V_L") chain which V_L chain has complementarity-determining regions as set forth in Figure 1 (SEQ ID NO:5).

141. (Previously presented) An antibody of claim 140, wherein said V_L chain has the sequence set forth in Figure 1 (SEQ ID NO:5).

142. (Previously presented) An antibody of claim 140, wherein said antibody is attached or fused to a therapeutic agent or detectable label.

143. (Previously presented) An antibody of claim 142, wherein said therapeutic agent is a toxin.

144. (Previously presented) An antibody of claim 143, wherein said toxin is a *Pseudomonas* exotoxin or cytotoxic fragment or mutant thereof.

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145. (Previously presented) A composition comprising a pharmaceutically acceptable carrier and an immunoconjugate which comprises a therapeutic agent or a detectable label attached or fused to an anti-mesothelin antibody comprising a variable heavy ("V_H") chain and a variable light ("V_L") chain, which V_H and V_L chains have complementarity-determining regions ("CDRs") as set forth in Figure 1 (SEQ ID NO:5).

146. (Previously presented) A composition of claim 145, wherein said V_H and V_L chains comprise framework regions ("FRs") as shown in Figure 1 (SEQ ID NO:5).

147. (Previously presented) A composition of claim 145, wherein said antibody is a single chain Fv ("scFv").

148. (Previously presented) A composition of claim 147, wherein said scFv has V_H and V_L chains joined by a peptide linker.

149. (Previously presented) A composition of claim 145, wherein said peptide linker has the sequence of SEQ ID NO:6.

150. (Previously presented) A composition of claim 147, wherein said scFv has the sequence shown in Figure 1 (SEQ ID NO:5).

151. (Previously presented) A composition of claim 145, wherein said antibody is a disulfide stabilized Fv ("dsFv").

152. (Previously presented) A composition of claim 145, wherein said therapeutic agent is a toxin.

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153. (Previously presented) A composition of claim 152, wherein said toxin is a modified *Pseudomonas* exotoxin or a cytotoxic fragment or mutant thereof.

154. (Previously presented) A composition comprising a pharmaceutically acceptable carrier and an immunoconjugate which comprises a therapeutic agent or a detectable label attached or fused to an anti-mesothelin antibody comprising a variable heavy ("V_H") chain having complementarity-determining regions ("CDRs") as set forth in Figure 1 (SEQ ID NO:5).

155. (Previously presented) A composition of claim 154, wherein said V_H chain comprises framework regions ("FRs") as set forth in Figure 1 (SEQ ID NO:5).

156. (Previously presented) A composition of claim 154, wherein said therapeutic agent is a toxin.

157. (Previously presented) A composition of claim 154, wherein said toxin is a modified *Pseudomonas* exotoxin or a cytotoxic fragment or mutant thereof.

158. (Previously presented) A composition comprising a pharmaceutically acceptable carrier and an immunoconjugate which comprises a therapeutic agent or a detectable label attached or fused to an anti-mesothelin antibody comprising a variable light ("V_L") chain having complementarity-determining regions ("CDRs") as set forth in Figure 1 (SEQ ID NO:5).

159. (Previously presented) A composition of claim 158, wherein said V_L chain comprises framework regions ("FRs") as set forth in Figure 1 (SEQ ID NO:5).

160. (Previously presented) A composition of claim 158, wherein said therapeutic agent is a toxin.

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161. (Previously presented) A composition of claim 158, wherein said toxin is a modified *Pseudomonas* exotoxin or a cytotoxic fragment or mutant thereof.

162. (Previously presented) A kit for detecting mesothelin on the surface of cells, said kit comprising:

(i) anti-mesothelin antibody comprising a variable heavy (V_H) chain and a variable light (" V_L ") chain, which V_H and V_L chains have complementarity-determining regions ("CDRs") as set forth in Figure 1 (SEQ ID NO:5); and,

(ii) instructions printed on a tangible medium, said instructions describing methods of using and said antibody for detecting mesothelin on the surface of cells.

163. (Previously presented) A kit of claim 162, wherein said V_H and V_L chains of said antibody have the sequence set forth in Figure 1 (SEQ ID NO:5).

164. (Previously presented) A kit of claim 162, wherein said antibody is a scFv.

165. (Previously presented) A kit of claim 164, wherein said scFv has the sequence set forth in SEQ ID NO:5.